

CBRN Escape Respirator Concept

Docket and Meeting Comments

Public Meetings

- October 16 and 17, 2002
- April 29, 2002

Docket

- 6 Submissions

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Docket and Meeting Comments

SUMMARY BY TOPIC

- ABMS
- Approval Fees
- Beards / Glasses
- Breathing Gas Control
- Breathing Resistance
- Communication
- CWA
- Dermal Protection / Hood
- Design Considerations
- Field of View
- Fogging
- Flammability
- Gas Life / Capacity
- LRPL
- Panic Demand
- R&D testing
- 'Rugged' vs. 'Light-use'
- (Additional Topics)

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ABMS

COMMENTS

- Cost Prohibitive
- Consider use of current NIOSH CO₂ testing procedures
- Consider 1% CO₂ at 80 lpm
- Consider 2.5% CO₂ at 10 lpm
- Need information on metabolic variables of breathing gases
- Delete testing requirement for higher breathing rate

HOW ADDRESSED

- No longer part of requirement

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APPROVAL FEES

COMMENTS

- Reduce cost by having duplicate tests rather than triplicate

HOW ADDRESSED

- Under consideration

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BEARDS AND GLASSES

COMMENTS

- If the respirator includes a nose-cup, have a requirement for manufacturers to include a warning that the user must be clean-shaven.

HOW ADDRESSED

- Caution and Limitations statements will be required

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BREATHING GAS CONTROL

COMMENTS

- Consider higher CO₂ and lower O₂ values because the service times are short
- Consider varying CO₂ with service life
- What are acceptable criteria for CO₂ > 2% or O₂ < 19.5%
- What is the rationale behind the 1.5% CO₂ requirement?

HOW ADDRESSED

- Sliding scale based on 42 CFR 84
- Based on 42 CFR 84
- Peer review of physiological effects of breathing gases

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BREATHING RESISTANCE

COMMENTS

- 20 mmH₂O is design restrictive, will require inhalation / exhalation valves

HOW ADDRESSED

- Retain 20 mmH₂O for use by all workers (old, pregnant, physically impaired)

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COMMUNICATION

COMMENTS

- Preliminary testing at SBCCOM has not shown success
- Conflicts with mouth-bit designs

HOW ADDRESSED

- Requirement eliminated

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CWA

COMMENTS

- HD liquid is higher than the APR standard
- How will SMARTMAN be modified for different mask configurations (nosecup or mouth piece)?

HOW ADDRESSED

- HD liquid redefined (same as APR)
- No modification to SMARTMAN required

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DERMAL PROTECTION / HOOD REQUIREMENT

COMMENTS

- Should not be part of a respirator requirement
- Facepieces are easier to don than hood, and smaller and lighter
- Retain the hood requirement because of users who do not typically wear respirators (beards and glasses)

HOW ADDRESSED

- Caution and Limitations statements will be required

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DESIGN CONSIDERATIONS

COMMENTS

- What constitutes the 'Specific' designation?
- Where can CO be added as an additional requirement?
- Designate CO as mandatory requirement

HOW ADDRESSED

- Categories redefined
- CO option available for 'General' and 'Specific'

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FIELD OF VIEW

COMMENTS

- Are the Field of View criteria appropriate for hoods? The requirement is based on face masks?

HOW ADDRESSED

- Less restrictive criteria than APR

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FOGGING

COMMENTS

- Allow users to clear visor during test

HOW ADDRESSED

- Performance requirement remains as stated

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FLAMMABILITY TESTING

COMMENTS

- Only perform testing on CO 'Specific' units
- 6 burner test may not be appropriate for a hood
- Consider alternative tests:
 - EN 270 (airline hoods - single burner)
 - EN 403 (self rescue hoods - single burner)
 - EN 136 (3 tiered approach)

HOW ADDRESSED

- Only applicable to APRs with CO protection and all SCBA
- All tests are single-burner

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GAS LIFE / CAPACITY

COMMENTS

- Consider using IDLH and ERPG values
- Use 3X IDLH for 'General' category
- Debate on ratings < 30 min:
 - 15 min minimum
 - 3, 5, and 10 min
- SCBA, consider > 1 hr

HOW ADDRESSED

- ERPG values used
- 'General' category based on 3X IDLH
- For APR, 15, 30, 45, 60 minutes
- For SCBA, as required by 42 CFR 84

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LRPL

COMMENTS

- 2,000 LRPL is too high
- How is the 95% pass criteria defined?
- 500 LRPL is more reasonable
- Make LRPL proportional to test concentration for 'High', 'Specific', and 'General'
- Why is LRPL same for SCBA and APR?

HOW ADDRESSED

- LRPL Redefined- Consistent with protection required

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PANIC DEMAND

COMMENTS

- Define where the requirement is in the standard

HOW ADDRESSED

- Panic Demand requirement applicable to both 'General' and 'Specific' categories

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R & D TESTING

COMMENTS

- How will R&D be scheduled?
- Can R&D testing be used as pre-submission data?

HOW ADDRESSED

- Certification testing takes priority
- Yes, but not as certification data

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‘RUGGED’ VS. ‘LIGHT USE’

COMMENTS

- ‘Light-duty’, smaller, units would provide greater ease for users to carry on their person
- Consider tiered testing approach for ‘light-duty’ vs. ‘rugged’ units

HOW ADDRESSED

- Not Specified- design restrictive
- Makes certification process too cumbersome

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(ADDITIONAL TOPICS)

COMMENTS

- Non-Ambulatory Escapes
- Use For Children

HOW ADDRESSED

- Not part of standard
- Not part of standard

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- June 30, 2003 Edition of Concept Paper
 - Breathing Gas Concept From Public Meeting
 - Editorial Corrections
 - July 25, 2003 Comments to Docket
- CBRN Escape Statement of Standard August, 2003
- CBRN PAPR Initial Concept August, 2003
- Next Public Meeting Sept. or October